

National Locator | One EPA Workplace - Windows Internet Explorer

1202004 Alcohols[REDACTED].pdf - Adobe Reader

File Edit View Window Help 65 / 257 47.8% Tools Sign Comment

Certificate of Analysis

Custom Standard

Product Number: CUS-5033
Lot Number: CH-3603
Page: 1 of 1
Lot Issue Date: 08-Nov-2011 Expiration Date: 31-Dec-2013

This Certified Reference Material (CRM) was manufactured and verified in accordance with ULTRA Scientific's ISO 9001 registered quality system. All of the gravimetric preparation data by our ISO 17025 accredited laboratory serves to verify the consistency of each analyte. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
ethanol	000064-17-5	RM02888-01	10050 ± 50 µg/mL
methanol	000067-56-1	RM02288-01	10050 ± 50 µg/mL
1-propanol	000071-23-8	RM00988-02	10044 ± 50 µg/mL
1-butanol	000071-38-3	RM01813-0	10050 ± 50 µg/mL
2-butanol	000078-92-2	RM01299-0	10050 ± 50 µg/mL

Matrix: water (low TOC, < 50 ppb)
Storage: Store at < 4°C. Do Not Freeze

Rod
11-10-11
An

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

250 Smith Street, North Kingstown, RI 02882 USA
401-844-8400 Fax: 289-2300
www.ultrascientific.com

Ex. 4 - CBI

start file review - I... WO 1202004 1202004 Alco... Microsoft... National Locat... Trusted sites 100% 11:11 AM

Ex. 5 - Attorney Client

National Locator | One EPA Workplace - Windows Internet Explorer

1202004 Inorganics[REDACTED].pdf - Adobe Reader

File Edit View Window Help 31 / 426 47.8% Tools Sign Comment

ERA
A Waters Company

Certificate of Analysis

PRODUCT: 1000 mg/L Nitrate as N (NO₃-N)
CATALOG NUMBER: 058-128 mLc.991-500 mL
LOT NUMBER: 180111
ISSUE DATE: January 31, 2011
REVISIION DATE: Original

STARTING MATERIAL: Potassium Nitrate (KNO₃)
CERTIFIED CONCENTRATION: 1000 mg/L
UNCERTAINTY: 0.4%
MATRIX: 18 megohm deionized water
DENSITY: 1.0032 ± 0.0008 g/mL at 21.5°C and 776 mm Hg

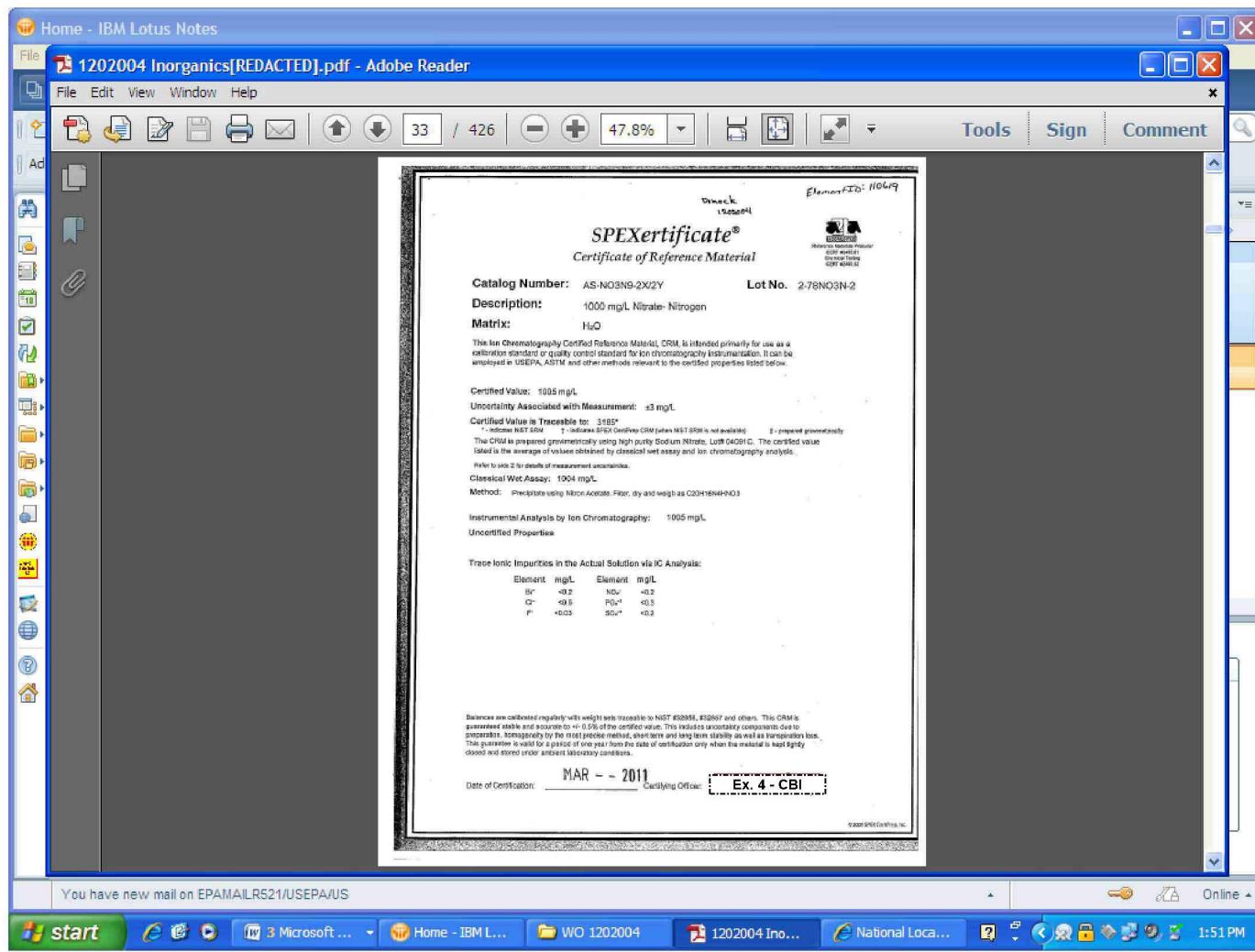
TRACEABILITY: 97.4%
NIST(SIM): 3185 Nitrate
VERIFICATION METHOD: Ion Chromatography
STORAGE: Store at 20-25°C

The Certified Concentration is the actual made-to-concentration confirmed by ERA analytical verification.
The stated Uncertainty is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation of the product and includes uncertainty related to the starting material used and the volumetric and gravimetric measurements made. The method of calculating uncertainty is taken from the ISO Guide to the Expression of Uncertainty in Measurement (current version). The uncertainty applies to the product as supplied and does not take into account any required or optional dilutions and/or preparations the laboratory may perform while using this product.
Traceability Recovery = (% Recovery certified standard)/(% Recovery NIST SRM)*100.
The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs.
This standard expires 10/2013. The certified values are monitored and purchasers will be notified of any significant changes resulting in reclassification or withdrawal of this certified reference material during the period of validity of this certificate.
If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0182 or email to info@eragc.com
Certifying Officer: [REDACTED]

6000 West 54th Ave., Arvada CO 80002 800-372-0122 fax:303-421-0159 www.eragc.com

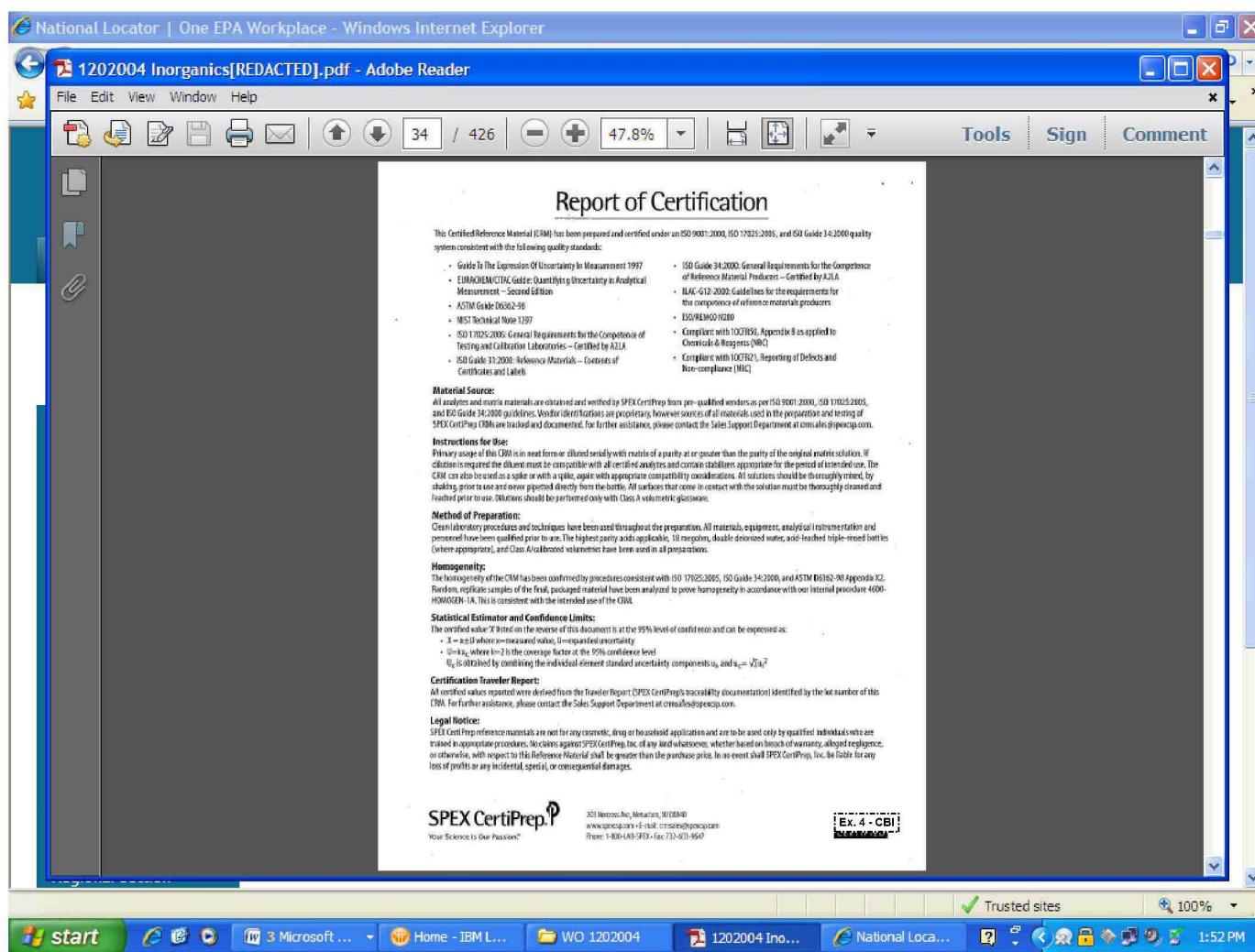
start 3 Microsoft... Home - IBM L... WO 1202004 1202004 Ino... National Locat... Trusted sites 100% 1:50 PM

Ex. 5 - Attorney Client

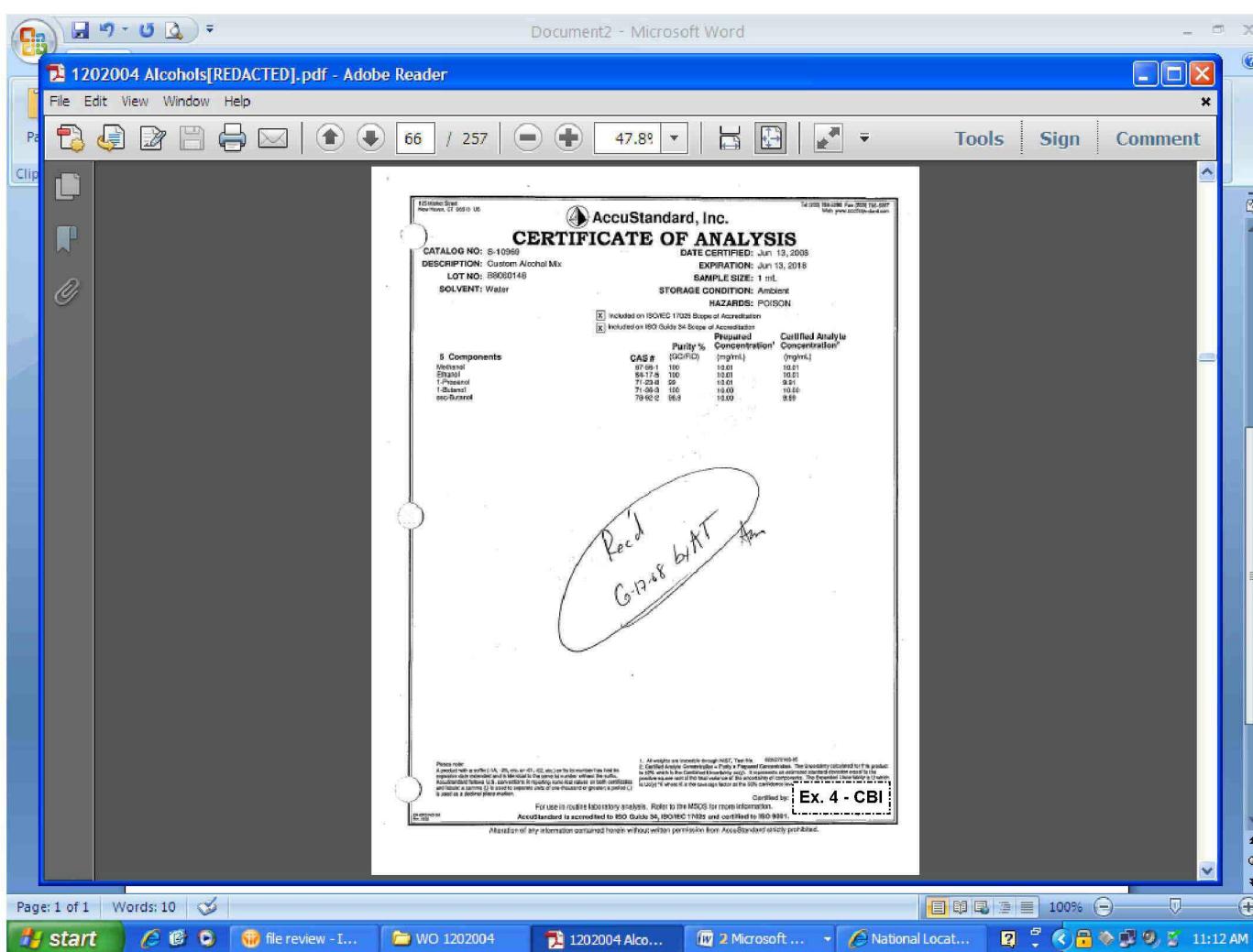


of same

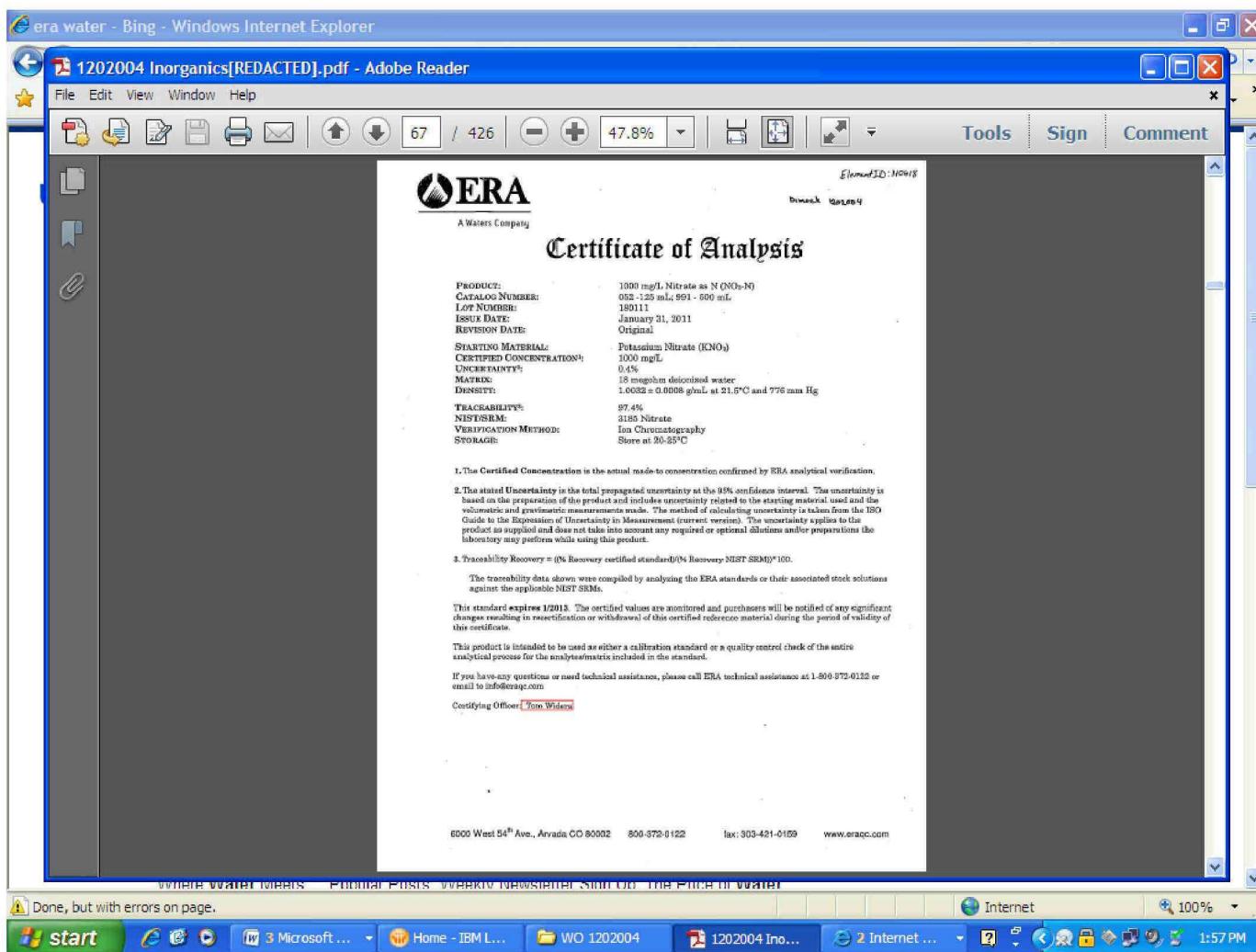
Ex. 5 - Attorney Client



Ex. 5 - Attorney Client



Ex. 5 - Attorney Client



Ex. 5 - Attorney Client

Dimock Data Redactions.awhittaker..doc [Compatibility Mode] - Microsoft Word

1202004 Inorganics[REDACTED].pdf - Adobe Reader

File Edit View Window Help

91 / 426 61.8% Tools Sign Comment

Analysis Log, Current
Date: 35/02/2012
Batch ID: W02004
Site Name: Dimock Residential Groundwater
WOF: 1202001
Oil and Grease Method 1664A - SOP R3.QA163
Instrument Run Log INB 35

Sample ID	Part No.	Final Wt. gm	Initial Wt. gm	REPORTED HEM mg	Vol L	Volume Corr. CONC HEM mg/L	TRUE Value	% Recovery	Acceptable limits	Sample pH
1202004-23	1	2.6103 ✓	2.6103 ✓	0.0 ✓	0.95 ✓	0.0			<2	
1202004-24	2	2.6106 ✓	2.6106 ✓	0.0 ✓	0.94 ✓	0.2			<2	
1202004-25	3	2.6157 ✓	2.6157 ✓	0.1 ✓	0.97 ✓	0.2			<2	
1202004-26	4	2.6136 ✓	2.6136 ✓	0.1 ✓	0.93 ✓	0.1			<2	
1202004-27	5	2.6026 ✓	2.6016 ✓	0.2 ✓	0.97 ✓	0.2			<2	
1202004-28	6	2.5949 ✓	2.5949 ✓	0.0 ✓	0.93 ✓	0.0			<2	
1202004-29	7	2.6291 ✓	2.6249 ✓	0.2 ✓	0.97 ✓	0.2			<2	
1202004-30	8	2.6267 ✓	2.6252 ✓	0.2 ✓	0.97 ✓	0.2			<2	
1202004-31	9	2.6266 ✓	2.6252 ✓	0.1 ✓	0.99 ✓	0.1			<2	
1202004-32	10	2.5993 ✓	2.5982 ✓	0.0 ✓	0.98 ✓	0.0			<2	
BC20701-BLK1	11	2.5982 ✓	2.5960 ✓	0.2 ✓	1.00 ✓	0.2			<2	
BC20701-BSP1	12	2.6570 ✓	2.6231 ✓	33.9 ✓	1.00✓	33.9 ✓	40.0	85 ✓	31.2-45.6	<2
BC20701-DUP1	13	2.6151 ✓	2.6150 ✓	0.1 ✓	0.93 ✓	0.1			<2	
BC20701-MRL1	14	2.6566 ✓	2.5944 ✓	4.2 ✓	1.00 ✓	4.2	5.6	52 ✓	4.8-11.2	<2
BC20701-MSP1	15	2.6247 ✓	2.6081 ✓	34.6 ✓	0.90 ✓	38.4 ✓	40.0 (40.0)	85 ✓	31.2-45.6	<2
BC20701-SRM1	16	2.6437 ✓	2.6062 ✓	33.5 ✓	1.00 ✓	33.5 ✓	44.1	85 ✓	30.4-48.9	<2

Preparation of the BS (OPR): 5 mL of the hexadecane and stearic acid pipetted into 995 mL of the acidified Millipore DI H₂O

Preparation of the SRM: 1 mL of Accustandard IPE-OIL-001 Millipore DI H₂O

Preparation of the MRL: 1 mL of the hexadecane and stearic acid pipetted into 999 mL of the acidified Millipore DI H₂O

Preparation of the MS: 5 mL hexadecane-stearic acid standard Accustandard IPE-OIL-G-001 Catalog No: M-1664-20 Lot No: 381702-01-01

Preparation of the MRS: 5 ML hexadecane-stearic acid standard Accustandard M-1664-20 Catalog No: 211051026 Lot No: 211051026

Approved: Ex. 4 - CBI Date: 3/8/12 Analyst: Date: 3/8/12

Page: 6 of 6 Words: 77

start Microsoft... Home - IBM L... WO 1202004 1202004 In... Internet... 2:00 PM

Ex. 5 - Attorney Client

me file.

Dimock Data Redactions.awhittaker..doc [Compatibility Mode] - Microsoft Word

1202004 Inorganics[REDACTED].pdf - Adobe Reader

File Edit View Window Help

103 / 426 47.8% Tools Sign Comment

3M Dimock 1202004 METHOD Extraction Disks

EPA Method 1664

Summary
This method measures only for Petroleum Extractable Material (PEM), qualitatively portion of Method 1664. A one liter aqueous sample is passed through this Empore disk and eluted with *n*-hexane. The extract is dried with sodium sulfate, hexane is evaporated and the residue is weighed and reported as PEM.

Description
EPA Method 1664 Revision A (Fitzgerald 1989) is a performance-based method for Petroleum Extractable Material (PEM - Oil and Grease) and Other Gel Trapped Non-Volatile Material (OGT - HDM, Non-polar Material) by Extraction and Recovery. The method permits a laboratory to use alternative methods to Liquid-Liquid-Liquid extraction and concentration "provided that all performance specifications are met" (page 1 of EPA Method 1664 Revision A). There is a further note on page 1 of Revision A that states, "Solid-phase extraction (SPE) may be used at the discretion of the laboratory and its laboratory." This method (method 1664) is a step-by-step guide for the use of Empore™ Oil and Grease Solid Phase Extraction Disks to perform the EPA-9051 hexane extraction technique.

Initial Precision and Recovery
The table on the right lists the results of JN's Initial Precision and Recovery (IPR) study for the solid phase extraction (SPE) method (Revision A) of Method 1664 as established in section 8.1.2.1.

Method 1664, Empore™ Oil & Grease Disk (47mm)			
Recovery	Standard Deviation	MDL	ML
89%	0.216	0.679	2.159
(n=5, p=0.95)			

Method

STEP 1
Assemble Glassware: Assemble the filtration apparatus with the oil and grease disk. Disk must be inserted with correct orientation. For sample processing weighing scale, graduated cylinder, and analytical balance are recommended. The vacuum system is optional. An extraction vessel capable of holding approximately 100 mL of waste receiving dish and disposed of the solvent according to local, state and federal regulations.

Place the waste receiving dish in the extraction vessel. Weigh the extraction vessel and the disk with reference weight. Add solvent to completely cover the disk. Apply excess to draw the solvent through the disk with the vacuum until the system is off. Discard the waste receiving dish.

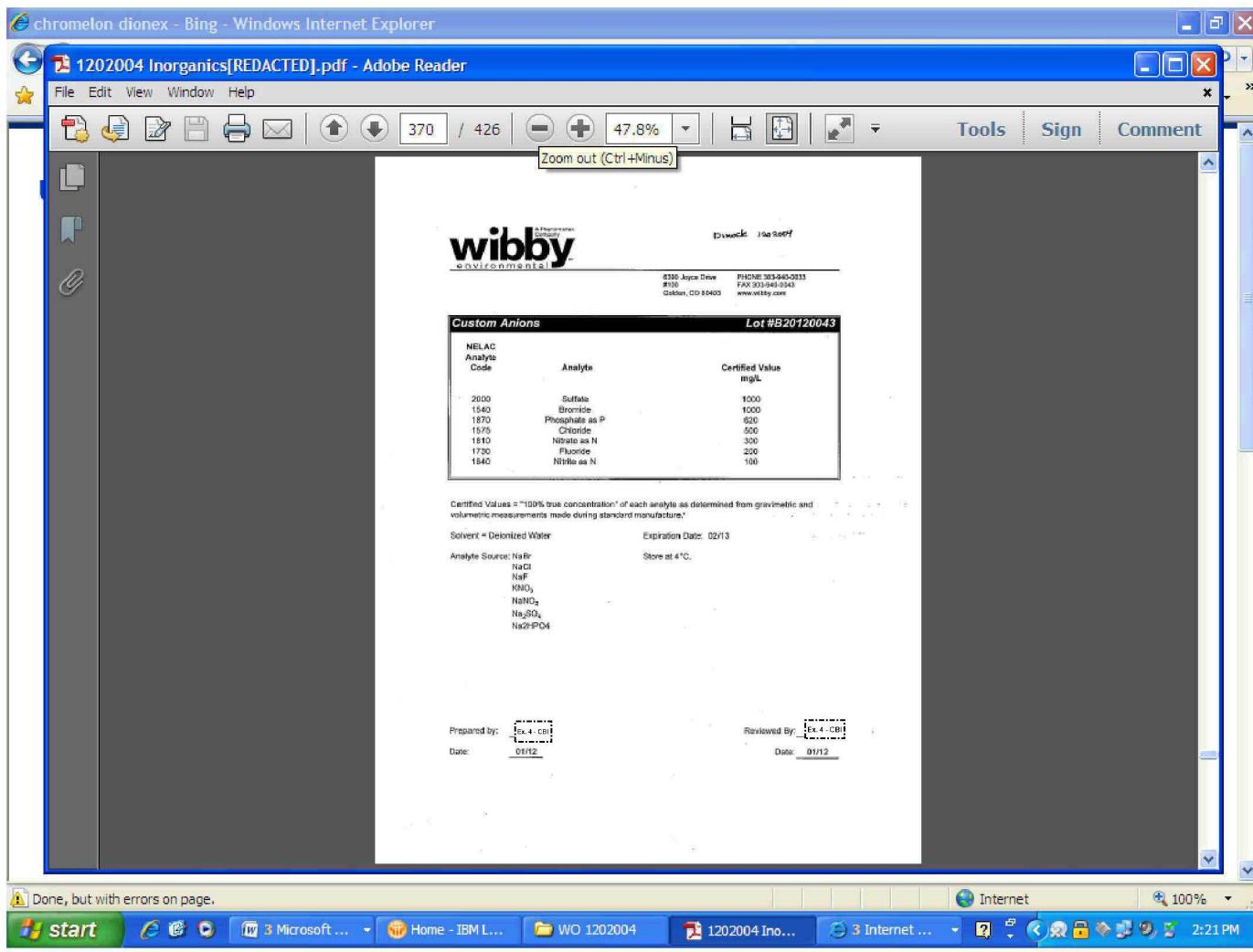
STEP 2
Condition Disk: Condition the disk by immersing it in a bath of 100 mL of methanol for 10 minutes. Rinse the disk with 100 mL of water. Use approximately 50 mL methanol for a 90 mm disk. Use enough methanol to completely cover the disk (20 mL fit).

Rinse the disk with deionized water. Use 30 mL water for a 47 mm disk. Use 50 mL water for a 90 mm disk. Draw most of the water through, leaving enough to cover the disk surface. Do not allow the disk to become dry.

Page: 7 of 7 Words: 97

start Microsoft... Home - IBM L... WO 1202004 1202004 In... Internet... 2:05 PM

Ex. 5 - Attorney Client



Ex. 5 - Attorney Client